

## Substance Use Policy and Practice in the COVID-19 Pandemic:

### Learning from Early Pandemic Responses through Internationally Comparative Field Data

#### **Abstract:**

The COVID-19 pandemic has created an unprecedented natural experiment in drug policy, treatment delivery, and harm reduction strategies by exposing wide variation in public health infrastructures and social safety nets around the world. Using qualitative data including ethnographic methods, questionnaires, and semi-structured interviews with people who use drugs (PWUD) from field sites spanning 13 different countries, this paper compares national responses to substance use during the first wave of the COVID-19 pandemic. Field data was collected by the Substance Use x COVID-19 (SU x COVID) Data Collaborative, an international network of social scientists, public health scientists, and community health practitioners convened to identify and contextualize health service delivery models and social protections that influence the health and wellbeing of PWUD during COVID-19. Findings suggest that countries with stronger social welfare systems pre-COVID introduced durable interventions targeting structural drivers of health. Countries with fragmented social service infrastructures implemented temporary initiatives for PWUD led by non-governmental organizations. The paper summarizes the most successful early pandemic responses seen across countries and ends by calling for greater systemic investments in social protections for PWUD, diversion away from criminal-legal systems toward health interventions, and integrated harm reduction, treatment and recovery supports for PWUD.

**Keywords:** Harm reduction, drug policy, COVID-19, overdose, substance use

## Authors:

1. Shoshana V. Aronowitz, PhD, FNP-BC  
Department of Family and Community Health, University of Pennsylvania  
visho@nursing.upenn.edu
  
1. Jennifer J. Carroll, PhD, MPH  
North Carolina State University, Department of Sociology and Anthropology  
Brown University, Department of Medicine  
jenniferjcarroll@gmail.com
  
1. Helena Hansen, MD, PhD  
David Geffen School of Medicine, University of California Los Angeles  
HHansen@mednet.ucla.edu
  
1. Caroline M. Parker, PhD  
Department of Social Anthropology, University of Manchester  
Caroline.parker@manchester.ac.uk
  
1. Marie Jauffret-Roustide, PhD  
Centre d'Étude des Mouvements Sociaux (CEMS) (Inserm U1276/CNRS UMR  
8044/EHESS), Paris, France.  
Baldy Center for Law and Social Policy, Buffalo University, NY  
British Columbia Center On Substance Use, University of British Columbia, Vancouver,  
Canadamarie.jauffretroustide@inserm.fr
  
1. Selena Suhail-Sindhu, MPH  
Center for Social Medicine and Humanities, University of California Los Angeles  
selena.sindhu@gmail.com
  
2. Carmen E. Albizu-Garcia, MD  
Puerto Rico Graduate School of Public Health
  
3. Margarita Alegria, PhD  
Harvard Medical School
  
4. Jaimie Arrendondo, PhD  
Center for Research and Economic Teaching, Guascalientes, Mexico.
  
5. Alexander Baldacchino, MD, MPhil, PhD  
University of St Andrews
  
6. Ricky Bluthenthal, PhD  
University of Southern California

7. Philippe Bourgois, PhD  
University of California Los Angeles
8. Joshua Burraway, PhD  
University of Virginia
9. Jia-shin Chen, MD, PhD  
National Yang-Ming University
10. Hamed Ekhtiari, MD, PhD  
University of Oklahoma
11. Ali Farhoudian, MD  
University of Social Welfare and Rehabilitation Sciences, Tehran
12. Joseph Friedman, MPH  
University of California Los Angeles
13. Hussien Elkhoyl, MD  
Ain Shams University, Egypt
14. Ayana Jordan, MD, PhD  
Yale University
15. Lindsey Kato, MPH  
US Centers for Disease Control and Prevention
16. Kelly R. Knight, PhD  
University of California Los Angeles
17. Carlos Martinez, MPH  
University of California Berkeley
18. Ryan McNeil, PhD  
Yale University
19. Hayley Murray, BA  
ChemicalYouth Project
20. Sarah Namirembe  
Uganda Recovery
21. Khuat Thi Hai Oanh, MD, MSc  
Center for Supporting Community Development Initiatives
22. Ramin Radfar, MD

Isfahan University of Medical Science, Iran

23. Laura Roe, MA  
University of St Andrews

24. Anya Sarang  
Foundation for Health and Social Justice, Moscow, Russia

25. China Scherz, PhD  
University of Virginia

26. Joe Tay Wee Teck, PhD  
University of Glasglow

27. Lauren Textor, BA  
University of California Los Angeles

## **Introduction**

The COVID-19 pandemic has created an unprecedented natural experiment in drug policy, treatment delivery, and harm reduction strategies by highlighting wide variation in public health infrastructures and social safety-nets around the world. This paper considers policy and practice responses to the needs of people who use drugs (PWUD) during COVID-19. It uses qualitative data and publicly available statistics from field sites spanning 13 countries (Canada, Egypt, England, France, Iran, Mexico, Netherlands, Russia, Scotland, Uganda, Ukraine, United States, Vietnam) regarding health services and social protections for PWUD during first wave of COVID-19 lockdowns, collected by the Substance Use x COVID-19 (SU x COVID) Data Collaborative. This collaborative was convened to identify and contextualize practices that influence the health and wellbeing of PWUD during public health emergencies.

### ***Drug Policy before COVID-19***

According to the 2020 United Nations World Drug Report, an estimated 35 million people worldwide are currently living with one or more substance use disorders (SUDs), of which an estimated 11.3 million use drugs by injection (UNODC, 2020a). Global estimates of substance use-related deaths ranged from 144,000-452,000 in 2016, with opioids implicated in an estimated 60% of those mortalities globally (Naghavi et al., 2017; Degenhardt et al, 2018).

Long before the COVID-19 pandemic, SUD researchers identified the criminalization of substance use as a critical structural driver of substance use-related harms (Stauffer, 2016), even as national governments persisted in implementing criminal responses. Nearly half a million

people globally are incarcerated for drug possession, and a further 1.7 million are incarcerated for other drug-related offences, many of which are non-violent offences (Lines et al., 2020; Simbulan et al., 2019). In many countries, mass incarceration for drug-related offenses has exacerbated synergistic epidemics of HIV infection, HCV infection, and tuberculosis (Altice et al., 2016). Beyond incarceration, criminalization is known to further marginalize PWUD by reducing their access to housing, employment, and treatment and prevention services (Csete et al., 2016; Mital et al., 2020).

Despite clear endorsement of evidence-based responses from federal public health agencies (CDC 2018), state and federal governments in the United States have historically employed punitive ‘War on Drugs’ policies, producing the highest incarceration rates in the world and disproportionately imprisoning people who are Black, Hispanic, and/or Indigenous (Travis et al., 2014). In many US states, evidence-based harm reduction interventions are illegal (Potier, et al., 2014; Kennedy et al., 2017; Nadelmann et al., 2017) and access to Medication for Opioid Use Disorder (MOUD) is patchy and socially stratified according to racial, economic, and geographic inequalities (Lagisetty et al., 2019; Andrilla et al., 2017). As early as 2017, when annual drug overdose deaths reached 70,000, the United States declared drug-related overdose a public health emergency (UNODC, 2020a). By 2021, following the emergence of COVID-19, emergency medical records revealed an increase in US overdose deaths of 53% (CDC 2022).

In contrast, Canada, Australia, and many European Union member states have historically prioritized public health rather than punitive approaches, providing access to MOUD and harm reduction services including safe syringe programs (SSPs) and safe consumption sites (SCS) to

prevent overdose deaths. In 2022, near 100 SCS were known to be operational across Europe (EMCDDA, 2022), where they are reducing rates of non-fatal overdose, reducing infectious disease and tissue injuries related to substance use, and virtually eliminating fatal overdose among those who consume within the facilities (Potier et al., 2014; Kerr et al., 2017). In 2017, an estimated 1.3 million high-risk individuals who use opioids lived in Europe, yet only 9,461 overdose deaths were reported across the 28 European Union member states (EMCDDA 2020a). In Portugal, where the government has implemented a policy to decriminalize all drugs, decriminalization was followed by improved population health outcomes, no significant increase in substance use overall, and reductions of drug-induced deaths (Murkin, 2014; Hughes & Stevens 2010; Library of Congress Law, 2020).

Drug policies across Asia, Africa, and Latin America vary enormously (Tran et al., 2015; Chen, 2020; Liao et al., 2013; Naamara & Muhwezi, 2014; Beletsky et al., 2015). Some countries in the Middle East and Asia have made harm reduction services and MOUD widely available, including Iran (Alavi et al., 2020; Ekhtiari et al., 2019) and Taiwan (Chen, 2016). Other countries maintain more regressive or even scientifically contraindicated policies (criminal justice responses masquerading as public health), such as China's routine use of coerced drug treatment (Enshen 2014) and Russia's outright ban of opioid agonist MOUD, regardless of medical use (The Lancet 2011).

Against this varied backdrop, the question arises of how pre-existing conditions, such as the prioritization of social justice and public health versus criminal justice responses to substance use and past investments in social and health services to protect PWUD shape—or even

predict—the capacity of local governments to mount an effective pandemic response. Further, which institutional domains—beyond direct provision of healthcare—are most critical for policy makers and practitioners responsible for developing and implementing pandemic responses that bear the health and wellbeing of PWUD in mind?

Drawing on field reports derived from the international network of the SU x COVID Data Collaborative, this article presents policy makers and healthcare service providers with an international comparison of health service delivery models and social protections that influence the health and wellbeing of PWUD during COVID-19 across four critical domains: (1) access to care and harm reduction for PWUD; (2) the role of grassroots and peer-led organizations in responding to COVID-19; (3) the public health impacts of COVID-lockdowns on PWUD; (4) and COVID-19's impacts on drug markets and policing. For each domain we summarize and contrast different countries' responses, highlighting examples of best practice from around the world which can inform policymaking.

## **Methodology**

In May of 2020, the SU x COVID-19 Data Collaborative, an international network of social scientists, public health scientists, and community health practitioners, began meeting virtually to exchange and analyse field data on the impact of the COVID-19 pandemic and related policy changes on PWUD across the globe. Collaborative members were initially identified with technical assistance from three organizations: the International Society for Addiction Medicine, the Open Society Foundation's International Harm Reduction Development Program, and the U.S. National Academy of Medicine's Opioid Collaborative. The first step of the methodology



was to build a diverse group of experts from different scientific disciplines (across the social sciences and public health) and from multiple countries from both the Global North and the South in order to capture countries with diverse range political and policy landscapes prior to the COVID pandemic. Following a snowball methodology, initial members subsequently identified new members from diverse regions who were collecting field data among PWUD, eventually culminating in a group of research scientists: the “SU x COVID-19 Data Collaborative.”

The second step was to gather the data from each country. SU x COVID Data Collaborative members presented their emergent findings from field data during weekly meetings. These initial findings were primarily qualitative and consisted of direct observations in drug-treatment centres, harm reduction facilities and community outreach programs as well as qualitative interviews with PWUD and with the staff of various organizations that serve them, including (but not limited to) healthcare facilities, harm reduction programs, and community outreach programs. Based on these cross-cutting topics that emerged from initial meetings, the collaborative formed four working groups that convened regularly to compare their field data regarding: (1) access to care and harm reduction for PWUD; (2) the role of grassroots, community, and peer-led organizations in responding to COVID-19; (3) the public health impacts of COVID-lockdowns on PWUD, and (4) COVID-19’s impacts on drug markets and policing. Each working group compiled and reviewed its emerging field data and worked collectively to identify best practices at clinical, community, and national levels.

The third step of the methodology was to build a tool to homogenize, analyse and compare the data collected in each country. The initial findings from working groups formed the basis for an

open-ended questionnaire that the SU x COVID Data Collaborative subsequently administered to all of members to ensure more comprehensive and systematized data reporting.

The fourth step was for a core writing team composed of members from the collaborative<sup>1</sup> to inductively analyse questionnaire responses and working group meeting notes, using iterative thematic coding techniques common to qualitative research including continuous comparison and pragmatic adaptation of grounded theory in order to develop relevant coding categories (Lingard et al., 2008; Reeves et al., 2008). Multiple coders<sup>2</sup> were used for all data to ensure inter-coder reliability. Discrepancies between coders were resolved through team discussion and consensus. Finally, findings from working group meetings and the qualitative questionnaire were triangulated with scientific studies, where available, and with **reports from national governments and international health organizations for COVID-related** findings too recent to be published in peer-reviewed journals. Conclusions and recommendations based on this analysis were produced using a Delphi technique (Thangaratinam & Redman, 2005), which was modified by omitting the final ranking of policy priorities so as to avoid prioritizing any single region and to ensure diverse representation across the countries represented in our data. Delphi techniques are structured group communication processes among experts in the field in which complex issues, wherein knowledge is uncertain and incomplete, are evaluated using an iterative process. Overall, this combination of approaches enabled a deeper base of evidence for comparative analysis than would have been possible with traditional survey research.

---

<sup>1</sup> Authors CMP, JJC, SA, LT, HH, MJR, RR, AF, SSS, JF, CM, JB, LK, and RM

<sup>2</sup> Authors CMP, SA, HH, LT, RR, and MJR

## **Results**

Analysis of field data collected from 13 countries during the first wave of the COVID-19 pandemic (from March 2020-August 2020) revealed a wide range of practical and policy responses explored in detail below. Though these field reports do not lend themselves to regional generalizations, these data reveal four critical domains critical to the health and wellbeing of PWUD. These are: (1) access to care and harm reduction for PWUD; (2) the role of grassroots and peer-led organizations in responding to COVID-19; (3) the public health impacts of COVID-lockdowns on PWUD; (4) and COVID-19's impacts on drug markets and policing.

### ***1. Access to Care for People who use Drugs: Reconsidering what constitutes Care***

Field reports revealed significant international variation in what constitutes 'care' for PWUD. Some field reports defined care narrowly as MOUD. Others included structural-level policy interventions—such as affordable and stable housing and the decriminalization of nonviolent drug offenses—to be overdose prevention and health promotion measures during the COVID-19 pandemic. Additional forms of 'care' included harm reduction services, such as syringe exchange programs, naloxone distribution, safe consumption sites; access to personal protective equipment (PPE), and finally holistic and alternative treatment practices such as religious and spiritual and other forms of social support.

While definitions of 'care' varied, field reports showed that many of these care modalities were radically altered during the initial COVID-19 lockdowns in March 2020. In Uganda and

Vietnam, for example, MOUD services were often discontinued or reduced because global health programs stopped funding services involving face-to-face interactions. One example of this was the halting of Uganda's new methadone program within its national psychiatric hospital shortly after the emergence of COVID-19. While in Vietnam, to take another example, community-based clinics had to dip into their own operating funds to pay for methadone on behalf of patients who had lost their incomes, while in Iran, Mexico, and some US cities, unstably housed people were subjected to coercive treatments under the auspices of criminal justice systems. Other sites, in contrast, managed to introduce accommodations for PWUD that actually improved access to care. In the U.S. city of San Francisco, for example, MOUD providers implemented mobile visits to individuals recently released from jails and prisons as well as those experiencing homelessness.

Many countries amended policies and procedures for MOUD during lockdown. Iran removed bureaucratic barriers to take-home doses of methadone. In Egypt, the Minister of Health's approval of opioid agonist MOUD coincided with COVID lockdown. During the lockdown in France, which boasts one of the most successful MOUD programs in Europe (EMCDDA, 2020b), care providers increased MOUD access for people who were not under treatment before the COVID lockdown and the French Health authorities extended the refill period of buprenorphine and methadone for those who were in treatment before COVID. In Kyiv, Ukraine, all methadone patients were initially transitioned to a 10-day take home supply of methadone tablets, most of whom continued take-home dosing after lockdown was lifted, with a minority (20%) voluntarily returning to daily observed dosing so as to access the more restricted methadone liquid (Carroll, 2020).

In the United States, national regulations governing MOUD seem to have relaxed over time, giving federally regulated opioid treatment programs greater discretion in providing take-home doses of methadone as well as telehealth initiation and continuation of buprenorphine. Though promising, these national policies failed to result in geographically even access to MOUD. Politically conservative areas in particular often continued to go without sufficient MOUD, in part because local stakeholders were resistant to flexible prescribing and supplies. In some US areas, the impact of national policies relaxing MOUD regulations was limited by pharmacies not stocking relevant medications (mostly buprenorphine), while some providers continued to refuse to offer take-home methadone due to concerns about diversion or overdose.

In nearly all countries, reduced face-to-face counselling led PWUD to report increased social isolation and greater reliance on psychiatric medications. That said, Virtual Narcotics Anonymous (NA) and Alcoholics Anonymous (AA) meetings were introduced in many European countries and in the United States, with members reporting relief from social isolation, mental distress, and drug cravings (Narcotiques Anonymes, 2020). Additional alternatives to AA and NA meetings also proliferated, such as Harm Reduction Works in the United States, which is a mutual support program that does not require abstinence (Lupick, 2020).

Telehealth, though widely used in Europe and North America, seems to have had some adverse consequences in some places, with field reports from in the Netherlands and the United States indicating increased local risk of domestic violence during the pandemic. Whereas prior to COVID-19, patients experiencing domestic violence had the opportunity to speak privately with their clinician or therapist during face-to-face appointments, virtual meetings introduced after the

outbreak of COVID-19 sometimes enabled romantic partners to listen to therapy sessions, placing patients at heightened risk of violence. Overall, telehealth seems to have been used much less in countries where residents experience lower access to Internet service and Internet-capable devices, such as Uganda, Kenya, and South Africa. In some Western countries such as France, Scotland, and Canada telehealth may conceivably have increased social and health inequalities between PWUD, by excluding the poorest PWUD who often lack access to a mobile phone and/or a computer, not to mention a place with sufficient privacy to comfortably engage with telehealth.

Some sites in our study made special provisions for the quality of care provided via telehealth, such as the Scottish government, which funded quality improvement measures including the Staying Connected fund (Scottish Drug Deaths Taskforce, 2020), which assists peer support and recovery groups in the use of virtual media. This funding enabled Scotland's Salvation Army to purchase smart tablets and data plans for their unhoused clients and facilitated various virtual psychosocial support groups.

In Uganda, many PWUD historically relied on non-biomedical community resources, including churches, indigenous healers, and herbal medicine, all of which were curtailed by COVID-19 lockdowns. While virtual groups did proliferate in Uganda with the onset of COVID-19, access was often limited to those who could afford data plans.

In addition to significant variation within these key social institutions that directly target PWUD, COVID-19 has exposed broader differences in public health systems and social safety nets that

impact PWUD. On the proactive side, France's pre-existing state-funded social services meant that it was able to expand access to low-barrier MOUD during lockdown, and Scotland responded to COVID-19 by funding enhanced social services for PWUD. In some places, the public health imperative to contain COVID-19 has bolstered housing for PWUD (Kim, 2020; Tsai & Wilson, 2020). Simon Community in Scotland, for example, implemented a rehousing project which virtually eliminated outdoor sleeping in Edinburgh and Glasgow within 72 hours. In both France and Scotland, in fact, several hundred housing units included in these service expansions were earmarked specifically for homeless PWUD. In Paris, France, local government agencies paid for several hundreds of emergency housing units for PWUD, and deployed social workers and psychiatrists to prevent social isolation.

In the United States, by contrast, the outcomes of COVID-related housing efforts have been markedly less centralized. Notably, efforts to increase housing were seen mainly in California and the Northeast of the country. In Los Angeles, field reports indicate that 15,000 hotel rooms were reserved for homeless individuals but less than half of these were ever filled, as many homeless individuals preferred not to move away from their support networks. As an alternative, the LA Veterans Administration Hospital launched a "tent city" program for homeless veterans. Similarly, 3000 homeless individuals in San Francisco were relocated to hotel accommodations and city-sanctioned encampments with bathrooms as of May 2020, but local government planning for more permanent housing solutions has not been forth-coming. New York City moved 730 homeless men into upscale hotels during the summer of 2020, provoking the affluent neighbourhood residents to file formal complaints and leading city officials to vacate the hotels, only to reverse the decision in December of the same year, during New York City's second wave

of COVID-19 (Slotnick, 2020; Iverac, 2020). Efforts to house PWUD in the United States have thus been limited by piecemeal planning, inattention to pre-existing social support networks, and local homeowner resistance to broader affordable housing policies—all conditions that mirror the reality of the United States' weak social safety net prior to COVID-19, especially when compared to other countries in the Global North.

## ***2. Importance of Community, Grassroots, and Peer-Led Organizations in Responding to COVID-19***

Globally, the burden of responding to basic needs and overcoming barriers to care has disproportionately fallen to community-based harm reduction organizations since COVID-19 lockdowns began. These organizations typically provide housing, sterile injection equipment, PPE, and other essential services including food, clothes, and showers; necessities not typically delivered by healthcare systems. Though they are frequently under-funded and go unrecognized as essential service providers, our field reports suggest that community organizations face fewer bureaucratic barriers than governmental organizations when adapting their practices. This, in part, reflects the shared goals and motivations of their leadership and staff: often committed community members and PWUD who are very willing to take on the task of providing essential services even under highly precarious working conditions (Olding, 2020).

In many countries, these flexible community-based organizations facilitated access to treatment for SUD, providing Internet access at drop-in centres for telehealth, transportation to clinics, and home delivery of medications. In Scotland, France, and some US cities, community-based



organizations also conducted in-person street outreach to maintain contact with those who are unstably housed or otherwise hard to find.

In addition, community-based organizations in many countries mobilized for emergency housing operated by harm reduction organizations rather than by the state; housing that tolerates consumption of alcohol and other substance use in order to reduce evictions and lower barriers to service-engagement (Padgett et al., 2016). For example, in California, advocates pushed for government subsidies and mandates for affordable housing as well as for safe sleeping encampments with widely spaced tents for those who cannot secure housing. In Tijuana, Mexico, harm reduction organizations collaborated with the local government to secure temporary shelter for homeless people who use substances and have COVID-19.

### ***3. COVID-19's Impact on Law Enforcement and Imprisonment***

#### *Policing practices on the ground*

Field reports from cities in the United Kingdom, France, Mexico, Iran, and the United States reveal that, in the first few months of the pandemic (especially April and May 2020), enforcement of drug laws was abruptly curtailed, but these temporary reductions in police activity were usually intended to protect the health of officers, not the health of those targeted by police. In the Mexican city of Tijuana and the US city of San Francisco, for example, homeless PWUD reported a temporary cessation of clearing unhoused individuals from public spaces. Prior to the pandemic, Tijuana police routinely picked up PWUD, loading them into police

wagons for hours, and—once wagons were full—taking them to in for short jail stays. Field reports indicate that police suspended this practice entirely in April and May 2020 but returned to pre-COVID levels within 2-3 months. Across Mexico and the United States, police forces promptly resumed clearing the streets of unhoused populations, as well as resuming routine searches and arrests for possession of small quantities of substances.

In Scotland, the pandemic gave momentum to pre-existing reforms, including the Scottish Prison Service which implemented a prison continuation of treatment for SUDs upon release and an assertive outreach effort linking people who survived an overdose to treatment. In November 2020 a new initiative, whereby police officers carry and are trained to administer intranasal naloxone, was approved on a trial basis (National Prisoner Healthcare Network, 2016), and Scottish law was subsequently amended to allow for the community and peer-to-peer implementation of overdose education and naloxone distribution.

In the United States, racially motivated police violence received public attention just after the COVID-19 pandemic emerged. Following the police killing of George Floyd, Black Lives Matter protests reached an apex by June 2020, followed by increased levels of police violence, arrest, and suppression of protests. In Philadelphia, police attempted to enforce social distancing among homeless individuals by sounding bullhorns and yelling in the faces of homeless individuals without wearing masks. In Virginia, the relocation of SSPs and naloxone distribution to mobile service delivery and outdoor settings intensified police surveillance, police harassment and arrest, discouraging PWUD from utilizing public health services.

### *Prisons and Changes in Incarceration*

Prisons are high-risk environments for infectious outbreaks due to the prevalence of pre-existing health conditions, close contact, high population turnover, unsanitary conditions, and poor access to cleaning supplies, hygiene supplies, and PPE (Beaudry et al., 2020; Franco-Paredes et al., 2020). High numbers of COVID-19 cases have been reported in prisons in Chile, Brazil, Colombia, El Salvador, Peru (Vivanco & Muñoz, 2020; WION, 2020; Rangel et al., 2020), and Russia (Coynash, 2020). By December 2020, approximately 20% of all prisoners in the US tested positive for COVID-19; in some states, more than half of tested positive (Schwartzapfel et al., 2020). This exacerbated racial health disparities within the US criminal justice system, where Black, Hispanic, and Indigenous populations are grossly over-represented (Stillman, 2020; Chammah & Meagher, 2020).

Many governments around the world announced plans to release inmates from prisons in response to COVID-19, but decarceration efforts were implemented inconsistently. In the United Kingdom, only 257 people were released from prison by August 2020, despite the fact that 4,000 people were reported eligible for release (Bear, 2020; UK Ministry of Justice, 2020). Only 59 people were released from prisons in Mexico as of April 2020, though 1835 inmates received ankle bracelets in anticipation of release (El Financiero, 2020). France reduced its prison population by 10,000 in the first month of the pandemic (Winterburn, 2020). In the United States, the California counties of Los Angeles and Sacramento decreased their jail populations by over 30% through early release, the suspension of cash bail, and the suspension of pre-trial detention for non-violent crimes (Prison Policy Initiative, 2020). In Iran, the government released upwards of 85,000 prisoners as early as March 2020 and temporarily suspended drug

arrests and transfers to compulsory treatment centres (Hafezi, 2020). That said, many Iranians who completed compulsory treatment in these inpatient centres had their discharges postponed, leaving them in small-enclosed spaces at risk of COVID-19 exposure.

With a few exceptions, most sites did not make COVID-19 related provisions for the continuation of MOUD during incarceration or after release, a particularly dangerous situation in light of clear evidence that people living with SUD are at elevated increased risk of death from overdose and cardiovascular disease within the first two weeks after release (Mital et al., 2020; Hawks et al., 2020). Because prisons are key providers of MOUD in many parts of the world, release from incarceration can mean discontinuation of medical treatment (Mital et al., 2020). Individuals who are not able to continue MOUD while incarcerated are also less likely to reconnect with care and more likely to relapse upon release (Hawks et al., 2020).

#### ***4. COVID-19's Impact on Drug Markets, Drug Use Behaviour, and Overdose Rates***

Although the pandemic has not reduced the global supply of illicit drugs (World Drug Report, 2020), closures of transnational borders and air and shipping restrictions have influenced the types of drugs available and the price, purity, and potency of specific drug products. Some suppliers responded to COVID-19 restrictions by using private home delivery and digital retail spaces on the dark web (domains not indexed by search engines that often require special software to access). Preliminary analyses show that the number of lower volume trades on these sites increased during the pandemic (EMCDDA, 2020c).

Demand has changed unevenly across regions. Use of a new synthetic methamphetamine is reportedly on the rise in Egypt, and in Scotland, reduced availability of heroin prompted injection of other drugs such as crack cocaine. In the Netherlands, COVID-19 lockdown led to demand for “party drugs” (such as cocaine, MDMA, and ketamine) among young people for use at home, while demand for “party drugs” decreased in France (Jauffret-Roustide et al., 2020). One global survey indicated that the lockdown period led many young people to reduce their use of illegal drugs but increased their use of benzodiazepines (Barratt et al., 2020).

Meanwhile, overdose deaths increased in the United States and Canada (CDC, 2020; Norton & Kerr, 2020) partly due to solitary drug use, which makes naloxone use and other overdose response more difficult, and partly due to the more unpredictable drug supply, with many products containing fentanyl and other adulterants (e.g., etizolam, xylazine, synthetic cannabinoids). The synthetic opioid, isotonitazine, emerged as a novel contaminant in the US drug supply around the time of COVID-19. Isotonitazine cannot be detected with fentanyl test strips and has been implicated in overdose clusters across the United States (Claire et al., 2020). Vietnam also reported a rise in opioid overdose rates after its first lockdown, likely because of PWUD with reduced opioid tolerance suddenly re-entering street drug markets following the end of lockdown. Many countries reported increased alcohol consumption during lockdown, prompting Iran, South Africa, India, and Sri Lanka to ban or reduce the sale of alcohol, which seems to have contributed to poisoning deaths from unregulated homemade alcohol with methanol content (Nadkarni et al., 2020; Rehm et al., 2020; Arnold, 2020).

Canada, in contrast, expanded safe supply approaches to reduce overdose deaths by providing pharmaceutically regulated alternatives (Ivans et al., 2020; Tyndall, 2020). Similarly, the

Province of British Columbia quickly implemented new prescribing guidelines (Canadian Association of People Who Use Drugs, 2019; Ryan et al., 2020) intended to facilitate access to pharmaceutical opioids (hydromorphone) and stimulants (dextroamphetamine, methylphenidate) to PWUD at dual risk of COVID-19 and overdose (British Columbia Centre on Substance Use, 2020).

In sum, our field data unearthed a wide range of policies and practices in the COVID-19 pandemic, summarized in Table 1 below.

* Reported as Early Primary Responses to the COVID-19 Pandemic March-August 2020						
	Access to Treatment		Carceral Responses		Social and Harm Reduction Services	
	Telehealth Availability	Increased Access to MOUD (mobile services, relaxed regulation on methadone and buprenorphine)	Early Releases	Increased Surveillance and Arrests on Drug Charges	Increased housing availability	Enhancing OD prevention techniques (supervised injection, naloxone distribution)
Canada	x	x	x		x	x
Egypt	x	x				
England	x	x	x			
France	x	x	x		x	x
Iran		x	x	x		
Mexico			x		x	
Netherlands	x	x			x	
Russia						
Scotland		x	x			
Uganda			x	x	x	x
Ukraine		x				
USA	x	x	x	x	x	x
Vietnam	x	x		x		

## Discussion

Much remains to be learned about the full public health impacts of COVID-19 lockdowns and other policy adjustments in the realm of healthcare and criminal justice in the wake of the pandemic. Equally important as the question of the outcomes COVID-19 responses produced, we contend, is the question of why those policies emerged as they did, with significant global variation in both implementation plan and implementation success. The data we have presented here is suggestive in several respects.

First, countries with stronger pre-existing social welfare, public healthcare systems, and harm reduction infrastructures were more likely to introduce interventions targeting structural drivers of health, such as those promoting housing and those geared towards meeting PWUD's basic needs. By contrast, countries with weak, fragmented, or underfunded healthcare and social service infrastructures were more prone to implementing temporary initiatives for PWUD, initiatives that were too often stymied by the same kinds of social and structural barriers that threatened the wellbeing of PWID prior to COVID-19. Countries with weaker health and social care infrastructure were also more likely to shift the burden of service delivery to non-governmental organizations and harm reduction groups, rather than publicly-funded state services. Though the non-governmental organizations encountered in this research performed critical work in their respective field sites, these community organizations are likely to have limited long-term impact on structural drivers of health outcomes.

Second, our data suggest that the degree to which police and criminal justice systems were involved in responses to substance use pre-COVID-19 does not necessarily predict the level of criminal justice involvement in responses to COVID-19. Many countries that supported highly



punitive policies and practices prior to COVID-19 took significant steps to reduce policing and reduce prison population sizes during the pandemic, though these disruptions to law enforcement and incarceration were not always sustained.

Third, the COVID-19 pandemic has thus prompted a wide range of interventions to address pre-existing housing crises that threatened to exacerbate community spread of coronavirus. While some of these housing initiatives have temporarily improved the living conditions for some people, the success of these efforts has been hampered by their short-term horizons, their tendency to relocate vulnerable populations without adequate attention to the importance of pre-existing social support networks, and in some cases, by the failure to acknowledge and mitigate existing systemic inequalities has enabled NIMBYisms to supercede evidence-based public health interventions (Houborg et al. 2022, Davidson et al. 2014).

In Table 2 below, we have summarized what our SU Collaborative consider to be individual country's successes and graded with higher rates during the early response to COVID-19 based on our SU x COVID-19 Data Collaborative, according to field data and Delphi Group.

Table 2: Successful policies and practices supporting PWUD during COVID

France	Increased MOUD access for PWUD and extended the refill period of buprenorphine and methadone.
	Improved housing access for the most socially vulnerable people.
	Reduced its prison population by 10,000 in the first month of the pandemic.
Iran	Released 85,000 prisoners as early as March 2020.
	Temporarily suspended drug arrests and transfers to compulsory treatment centres.
Scotland	Allowed police officers to carry and administer intranasal naloxone on a trial basis from November 2020.
	Amended law to allow community members and peers to implement overdose education and naloxone distribution.
	Ensured continuation of treatment for SUDs upon release from prison.
United States	Implemented in-person street outreach to maintain contact with those who are unstably housed.
	Los Angeles and Sacramento decreased jail populations by over 30% through early release, and suspended cash bail and of pre-trial detention for non-violent crimes.
	San Francisco MOUD providers made mobile visits to individuals recently released from jails and prisons as well as those experiencing homelessness.
Ukraine	Transitioned all methadone patients to a 10-day take home supply of methadone tablets, with most patients continuing with take-home dosing after lockdown was lifted.

## ***Policies and Recommendations***

Evidently, many other COVID-19 related measures for PWUD have been promoted by international, national, and local agencies (World Health Organization Regional Office for Africa, 2020), including handwashing, social distancing, telehealth, and pharmaceutical home delivery (Patel et al., 2020). The European Monitoring Centre for Drugs and Addiction (EMCDDA) and the United Nations Office on Drugs and Crime (UNODC) have also highlighted the importance of provision of adequate PPE for substance-related service providers and the adjustment of work practices to ensure social distancing (EMCDDA, 2020b).

Yet, to protect the health of PWUD, national and international administrations must also address the structural drivers of social and economic marginalization, including drug criminalization and inadequate public health infrastructures. Providing biomedical services alone will not resolve social inequalities that accompany SUDs. Expanding standard definitions of “care” to include essential social protections as well will better promote the health and wellbeing of PWUD. This kind of structural approach grounded in the progressive delivery of social protections has been endorsed by the *International Network of People who use Drugs* and locally by the French users’ group *Auto-support des Usagers de drogues*. These peer-led organizations have called for more ambitious policies, including uninterrupted access to harm reduction services, the safe supply of drugs through monitoring of drug markets and pharmaceutical safe supply programs, social safety nets to ensure housing and food security, the decriminalization of drug use and possession in line with the UN Common Position on Drugs, and reductions in prison populations (Chang et al., 2020; Miguel, 2020).

In addition to the above recommendations and successes of the early pandemic, the SU x COVID-19 Data Collaborative findings support the following strategies and push for these to shape future research and policies:

*Adopt a broader definition of “care” that includes social protections*

- Ensure unimpeded access to supportive housing for PWUD, recognizing supportive housing as an essential social protection critical to the effectiveness of all other substance use-related services.
- Ensure unimpeded access to harm reduction, support groups, mental healthcare, and MOUD for PWUD.
- End law enforcement and sanitation department closures of homeless encampments that displace unhoused people from their social support networks.
- Provide hygienic services, PPE and social distancing parameters in homeless encampments.
- Maintain the relaxed limits on take-home doses and initiation of MOUD, including methadone and buprenorphine, beyond the COVID-19 pandemic.
- Avoid over-reliance on telehealth, which can limit investments in other psychosocial services that must be delivered in-person, and recognize that telehealth poses risks for those experiencing domestic violence and can exclude individuals who lack access to Internet or mobile phones.

*Publicly fund grassroots and harm reduction organizations as essential life-saving providers*

- Allocate funding for community-based essential care including shelter, food, and basic hygiene.
- Provide harm reduction and peer-led organizations with sufficient PPE and harm reduction supplies.
- Remove legal barriers to evidence-based harm reduction services, including SCSs.
- Adopt patient-centred standards of care for MOUD, which includes psychosocial services.
- Recognize the crucial role of peers in enhancing access to and reducing stigma of services.

*Divert PWUD away from criminal-legal and toward health interventions*

- Decriminalize drug use and possession in line with the United Nations Common Position on Drugs.
- Reduce prison populations through pardons, early release, and amnesties for people imprisoned for non-violent drug-related offences.
- Ensure continuity of MOUD and other support services for PWUD after release.
- Mandate law enforcement agencies adhere to social distancing rules and end the practice of harassing PWUD.
- Monitor and publicize the contents of drugs sold in illegal markets.
- Ensure legal, safe pharmaceutical grade supplies for physiologically dependent people.

## **Conclusion**

We have collated and shared the early field reports of the Substance Use x COVID-19 Data Collaborative, representing 13 diverse countries according to drug policies between March 2020-August 2020. These early field reports have offered helpful insights into the health service delivery models and social protections that have influenced the health and wellbeing of PWUD during COVID-19. These reports do not allow for generalizable conclusions or quantitative assessments of the efficacy of particular policies and practices, but they illuminate concrete examples of good practice from diverse countries and political contexts that are important to policy makers and healthcare service providers responsible for ensuring the wellbeing of PWUD around the world.

Optimistically, our data highlights the resourcefulness and dedication of community-based organizations, who reacted swiftly to the basic needs of PWUD during the pandemic. Such community organizations have familiarity with and are trusted by PWUD. In many places they have been able to support unstably housed PWUD and deliver mobile services and supplies. Yet, in many countries these organizations experienced reduced financial support and legal protections during the pandemic rather than recognition as essential front-line service providers. In these cases, structural level reforms and legislation at national and international levels are needed to protect the health and wellbeing of PWUDs.

Our data also illustrate how the COVID-19 pandemic prompted many countries to adopt strategies to protect PWUD that were previously thought impossible to implement, including

relaxing or suspending the criminalization of drug possession and consumption, though in many cases these important changes are already undergoing worrying reversals. The outstanding challenge, therefore, is to transform recent and effective strategies into sustainable institutional responses and policy change. Only through structural changes that directly address the drivers of social vulnerability and drug-related harms will it be possible to protect the health of all people—including those who use drugs—even after the crisis of a pandemic.

## References

- Alavi, M., Moghanibashi-Mansourieh, A., Radfar, S. R., Alizadeh, S., Bahramabadian, F., Esmizade, S., Dore, G. J., Sedeh, F. B., & Deilamizade, A. (2020). Coordination, cooperation, and creativity within harm reduction networks in Iran: COVID-19 prevention and control among people who use drugs. *The International journal on drug policy*, 102908. Advance online publication. <https://doi.org/10.1016/j.drugpo.2020.102908>
- Altice F et al. (2016). The perfect storm: incarceration and the high-risk environment perpetuating transmission of HIV, hepatitis C virus, and tuberculosis in Eastern Europe and Central Asia. *Lancet*. 388(10050): 1228–1248. doi: 10.1016/S0140-6736(16)30856-X.
- Andrilla, C. H. A., Coulthard, C., & Larson, E. H. (2017). Barriers rural physicians face prescribing buprenorphine for opioid use disorder. *Annals of Family Medicine*, 15(4),359–362. <https://doi.org/10.1370/afm.2099>.
- Arnold, C. (2020). Tainted sanitizers and bootleg booze are poisoning people. <https://www.nationalgeographic.com/science/2020/08/methanol-poisoning-bootleg-sanitizer-alcohol-how-to-protect-yourself-coronavirus-cvd/> Accessed 19 Dec 2020
- Barratt M, Winstock A, Ferris J. Forget the stereotypes. Our survey shows that many young people are drinking less alcohol during the lockdown. *The Conversation*, September 9 2020.
- Bear, J. Coronavirus: Prisons (England and Wales). (2020). Briefing Paper Number 8892, 18 May 2020. House of Commons Library. <file:///Users/Selena/Desktop/CBP-8892.pdf>
- Beaudry, G., Zhong, S., Whiting, D., Javid, B., Frater, J., & Fazel, S. (2020). Managing outbreaks of highly contagious diseases in prisons: a systematic review. *BMJ global health*, 5(11), e003201. <https://doi.org/10.1136/bmjgh-2020-003201>
- Beletsky, L., Wagner, K. D., Arredondo, J., Palinkas, L., Magis-Rodriguez, C., Kalic, N., Ludwig-Barron, N., & Strathdee, S. A. (2015). Implementing Mexico's "Narcomenudeo" drug law reform: A mixed-methods assessment of early experiences among people who inject drugs. *Journal of Mixed Methods Research*, 1–8.
- British Columbia Centre of Substance Use (2020). Interim Clinical Guidance. Risk Mitigation in the Context of Dual Public Health Emergencies. British Columbia Centre on Substance Use. <https://www.bccsu.ca/wp-content/uploads/2020/05/Risk-Mitigation-in-the-Context-of-Dual-Public-Health-Emergencies-v1.6.pdf> (Accessed 19 Dec 2020)



- Canadian Association of People Who Use Drugs. (2019). Safe Supply Concept Document. (2019). <https://vancouver.ca/files/cov/capud-safe-supply-concept-document.pdf> Accessed 19 Dec 2020
- Carroll (2020). Personal communication with Ukrainian Institute for Public Health Policy on December 9th, 2019.
- CDC (2022). Provisional Drug Overdose Death Counts. <https://www.cdc.gov/nchs/nvss/vsrr/drug-overdose-data.htm> Accessed 10 September 2022
- CDC Newsroom Releases. (2020). Overdose Deaths Accelerating During COVID-19. <https://www.cdc.gov/media/releases/2020/p1218-overdose-deaths-covid-19.html>. Accessed 19 Dec 2020
- CDC. (2018). Evidence-Based Strategies for Preventing Opioid Overdose: What’s Working in the United States? An introduction for public health, law enforcement, local organizations, and others striving to serve their community. <https://www.cdc.gov/drugoverdose/pdf/pubs/2018-evidence-based-strategies.pdf> Accessed 10 September 2022
- Chang, J., Agliata, J., & Guarinieri, M. (2020). COVID-19 - Enacting a 'new normal' for people who use drugs. *The International journal on drug policy*, 83, 102832. <https://doi.org/10.1016/j.drugpo.2020.102832>
- Chammah, M., Meagher, T. (2020). Is COVID-19 Falling Harder on Black Prisoners? Officials Won’t Tell Us. <https://www.themarshallproject.org/2020/05/28/is-covid-19-falling-harder-on-black-prisoners-officials-won-t-tell-us>. Accessed 18 Dec 2020.
- Chen, J. (2016) Harm reduction policy in Taiwan: toward a comprehensive understanding of its making and effects. *Harm Reduction Journal* 13:11. doi: 10.1186/s12954-016-0101-6
- Chen J. S. (2020). Therapy without a prescription: buprenorphine/naloxone diversion and the therapeutic assemblage in Taiwan. *Sociology of health & illness*, 42(3), 596–609. <https://doi.org/10.1111/1467-9566.13045>
- Claire M. Zagorski, James M. Myslinski, Lucas G. Hill. (2020). Isotonitazene as a contaminant of concern in the illegal opioid supply: A practical synthesis and cost perspective. *Int J Drug Policy*. 102939. [doi.org/10.1016/j.drugpo.2020.102939](https://doi.org/10.1016/j.drugpo.2020.102939).
- Coynash, H. (2020) Outbreak of Covid-19 in Russian prison holding Ukrainian prisoners of conscience. 16 June. <http://khpg.org/en/index.php?id=1592270066>. Accessed 14 Dec 2020.
- Csete, J., Kamarulzaman, A., Kazatchkine, M., Altice, F., Balicki, M., Buxton, J., Cepeda, J., Comfort, M., Goosby, E., Goulão, J., Hart, C., Kerr, T., Lajous, A. M., Lewis, S., Martin,

- N., Mejía, D., Camacho, A., Mathieson, D., Obot, I., Ogunrombi, A., ... Beyrer, C. (2016). Public health and international drug policy. *Lancet*.
- Davidson PJ, Howe M. Beyond NIMBYism: understanding community antipathy toward needle distribution services. *Int J Drug Policy*. 2014;25(3): 624–632. <https://doi.org/10.1016/j.drugpo.2013.10.012>
- Degenhardt, L., Charlson, F., Ferrari, A., Santomauro, D., Erskine, H., Mantilla-Herrera, A., . . . Vos, T. (2018). The global burden of disease attributable to alcohol and drug use in 195 countries and territories, 1990–2016: a systematic analysis for the Global Burden of Disease Study 2016. *The Lancet Psychiatry*, 5(12), 987-1012. doi:10.1016/s2215-0366(18)30337-7
- Ekhtiari H., Noroozi A., Farhoudian A., Radfar S.R., Hajebi A., Sefatian S. (2019). The evolution of addiction treatment and harm reduction programs in Iran: A chaotic response or a synergistic diversity? *Addiction*, 115(7),1395-1403. <https://doi.org/10.1111/add.14905>
- El Financiero (2020). Edomex libera a 1,894 reos por contingencia de coronavirus. April 17 <https://amp.elfinanciero.com.mx/estados/edomex-libera-a-1-894-reos-por-contingencia-de-coronavirus>. Accessed 18 Dec 2020
- Li, Enshen (2013). The new drug detoxification system in China: a misused tool for drug rehabilitation." *E. Asia L*. 9:168.
- European Monitoring Centre for Drugs and Drug Addiction (EMCDDA). (2020a) The implications of COVID-19 for people who use drugs and service providers, Lisbon, 2020. [https://www.emcdda.europa.eu/publications/topic-overviews/catalogue/covid-19-and-people-who-use-drugs\\_en](https://www.emcdda.europa.eu/publications/topic-overviews/catalogue/covid-19-and-people-who-use-drugs_en)
- European Monitoring Centre for Drugs and Drug Addiction (EMCDDA). (2020b) European Drug Report 2020. Trends and developments, Lisbon, 2020. [https://www.emcdda.europa.eu/publications/edr/trends-developments/2020\\_en](https://www.emcdda.europa.eu/publications/edr/trends-developments/2020_en)
- European Monitoring Centre for Drugs and Drug Addiction (EMCDDA). (2020c). COVID-19 and drugs: Drug supply via dark-net markets, Lisbon. [https://www.emcdda.europa.eu/system/files/publications/13042/EMCDDA-report\\_COVID19-darknet-final.pdf](https://www.emcdda.europa.eu/system/files/publications/13042/EMCDDA-report_COVID19-darknet-final.pdf)
- European Monitoring Centre for Drugs and Drug Addiction (EMCDDA) (2022) Infographic. Location and number of drug consumption facilities throughout Europe. [https://www.emcdda.europa.eu/media-library/infographic-location-and-number-drug-consumption-room-facilities-throughout-europe\\_en](https://www.emcdda.europa.eu/media-library/infographic-location-and-number-drug-consumption-room-facilities-throughout-europe_en)

- Franco-Paredes, C., Ghandnoosh, N., Latif, H., Krsak, M., Henao-Martinez, A. F., Robins, M., Barahona, V. L., Poeschla, E. M. (2020). Decarceration and community re-entry in the COVID-19 era. *The Lancet Infectious Diseases*. doi:10.1016/s1473-3099(20)30730-1
- Hafezi, P. (2020). Iran temporarily frees 85,000 from jail including political prisoners. <https://www.reuters.com/article/us-health-coronavirus-iran-prisoners/iran-temporarily-frees-85000-from-jail-including-political-prisoners-idUSKBN21410M>. Accessed 18 Dec 2020
- Hawks L, Woolhandler S, McCormick D. COVID-19 in Prisons and Jails in the United States. (2020). *JAMA Intern Med*. 180(8):1041–1042. doi:10.1001/jamainternmed.2020.1856
- Houborg E, Jauffret-Roustide M. (2022) Drug consumption rooms: welfare state and diversity in social acceptance in Denmark and France. *American Journal of Public Health*, 2022 vol. 112, n°2: 159-165
- Hughes, C. E., Stevens, A. (2010). What Can We Learn From The Portuguese Decriminalization of Illicit Drugs?, *The British Journal of Criminology*, 50(6) 999–1022. <https://doi.org/10.1093/bjc/azq038>
- Iverac, M. (2020). Appellate Court Gives Upper West Side Homeless Men A Temporary Second Chance. <https://gothamist.com/news/appellate-court-gives-upper-west-side-homeless-men-temporary-second-chance>  
Accessed 19 Dec 2020
- Ivsins, A., Boyd, J., Beletsky, L., & McNeil, R. (2020). Tackling the overdose crisis: the role of safe supply. *International Journal of Drug Policy*, 102769
- Jauffret-Roustide M, Barratt M, de Dinechin S, Davies E, Gilchrist G, Hughes C, Maier L, Ferris J, Winstock A. (2020) Consommation d'alcool et d'autres produits psychoactifs pendant la pandémie de COVID-19 dans la Global Drug Survey: une perspective française. *Psychotropes. Revue internationale des toxicomanies*, 2020, 2/26 : 209-219.
- Kennedy, M. C., & Kerr, T. (2017). Overdose Prevention in the United States: A Call for Supervised Injection Sites. *American journal of public health*, 107(1), 42–43. <https://doi.org/10.2105/AJPH.2016.303523>
- Kerr, T., Mitra, S., Kennedy, M.C. et al. (2017). Supervised injection facilities in Canada: past, present, and future. *Harm Reduct J* 14, 28. <https://doi.org/10.1186/s12954-017-0154-1>
- Kim C. It took a pandemic for cities to finally address homelessness. 2020. <https://www.vox.com/2020/4/21/21227629/coronavirus-homeless-covid-19-las-vegas-san-francisco>. Accessed 14 Dec 2020.

- Lagisetty PA, Ross R, Bohnert A, Clay M, Maust DT. (2019). Buprenorphine Treatment Divide by Race/Ethnicity and Payment. *JAMA Psychiatry*. 76(9):979-981. doi: 10.1001/jamapsychiatry.2019.0876.
- Liao DL, Chen PC, Chen CH, Hsieh CJ, Huang YF, Shih WY, et al. (2013). Higher methadone doses are associated with lower mortality in patients of opioid dependence in Taiwan. *J Psychiatr Res*, 47:1530–1534. 10.1016/j.jpsychires.2013.07.001
- Library of Congress Law (2020) *Decriminalization of Narcotics: Netherlands*. <https://www.loc.gov/law/help/decriminalization-of-narcotics/netherlands.php>. (Accessed 13 Jan 2021).
- Lines, R., Burke-Shyne, N., & Girelli, G. (2020). Gaol Fever: What COVID-19 Tells us about the War on Drugs. *Health and Human Rights Journal*.
- Lingard L, Albert M, Levinson W. (2008). Grounded theory, mixed methods and action research. *BMJ*, 337: a567.
- Lupick, T. (2020). Harm Reduction Works: An Exciting New Alternative to Narcotics Anonymous. <https://filtermag.org/harm-reduction-works-narcotics-anonymous/> (Accessed 19 Dec 2020)
- Miguel V. Les usagers de drogues durant le confinement dû à la pandémie de COVID-19 : la vision d'ASUD. (2020). *Psychotropes. Revue internationale des Toxicomanies*, (26): 95-103.
- Mital S, Wolff J, Carroll JJ. (2020). The relationship between incarceration history and overdose in North America: A scoping review of the evidence. *Drug Alcohol Depend*. 213:108088. doi: 10.1016/j.drugalcdep.2020.108088.
- Murkin G. Transform Drugs. (2014). Drug decriminalisation in Portugal: Setting the record straight. Retrieved from [https://transformdrugs.org/wp-content/uploads/2018/10/Portugal\\_0.pdf](https://transformdrugs.org/wp-content/uploads/2018/10/Portugal_0.pdf).
- Naamara, W., & Muhwezi, W. W. (2014). Factors Associated With Alcohol Dependence Among Adult Male Clients in Butabika Hospital, Uganda. *Journal of social work practice in the addictions*, 14(3), 322–326. <https://doi.org/10.1080/1533256X.2014.936251>
- Nadelmann, E.A., & LaSalle, L. (2017). Two steps forward, one step back: current harm reduction policy and politics in the United States. *Harm Reduction Journal*, 14(1), 1-7.
- Nadkarni, A., Kapoor, A., & Pathare, S. (2020). COVID-19 and forced alcohol abstinence in India: The dilemmas around ethics and rights. *International journal of law and psychiatry*, 71, 101579. <https://doi.org/10.1016/j.ijlp.2020.101579>

- Naghavi, M., Abajobir, A. A., Abbafati, C., Abbas, K. M., Abd-Allah, F., Abera, S. F., . . . Murray, C. J. L. (2017). Global, regional, and national age-sex specific mortality for 264 causes of death, 1980–2016: a systematic analysis for the Global Burden of Disease Study 2016. *The Lancet*, *390*(10100), 1151-1210. doi:10.1016/s0140-6736(17)32152-9.
- Narcotiques Anonymes. (2020). Les réunions Narcotiques Anonymes pendant le confinement : plus de deux mois d'entraide et de réunions virtuelles. *Psychotropes. Revue internationale des toxicomanies*, (26): 89-93.
- National Prisoner Healthcare Network. (2016). *Drugs, Alcohol and Tobacco Health Services in Scottish Prisons: Guidance for Quality Service Delivery*. NHS Scotland. <http://www.knowledge.scot.nhs.uk/media/11318713/20160226%20nphn%20substance%20misuse%20report%20final%20v1.0.pdf> (Accessed 13 Jan 2021).
- National Research Council. (2014). *The Growth of Incarceration in the United States: Exploring Causes and Consequences*. Washington, DC: The National Academies Press. <https://doi.org/10.17226/18613>.
- Norton, A., & Kerr, T. (2020). Applying the lessons of COVID-19 response to Canada's worsening opioid epidemic. *EClinicalMedicine*, *29*, 100633. doi:10.1016/j.eclinm.2020.100633
- Olding, M., Barker, A., McNeil, R., & Boyd, J. (2020). Essential work, precarious labour: The need for safer and equitable harm reduction work in the era of COVID-19. *Int J Drug Policy*, *90*, 103076. doi:10.1016/j.drugpo.2020.103076.
- Padgett D, Henwood BF, Tsemberis SJ. (2016) *Housing First: Ending homelessness, transforming systems, and changing lives*. Oxford University Press, USA.
- Patel SY, Mehrotra A, Huskamp HA, Uscher-Pines L, Ganguli I, Barnett ML. (2020). Trends in Outpatient Care Delivery and Telemedicine During the COVID-19 Pandemic in the US. *JAMA Intern Med*. doi:10.1001/jamainternmed.2020.5928
- Potier, C., Laprevote, V., Dubois-Arber, F., Cottencin, O., & Rolland, B. (2014). Supervised injection services: What has been demonstrated? A systematic literature review. *Drug and Alcohol Dependence*. *145*, 48–68. <https://doi.org/10.1016/j.drugalcdep.2014.10.012>.
- Prison Policy Initiative (2020). Responses to the COVID-19 pandemic. <https://www.prisonpolicy.org/virus/virusresponse.html>. Accessed 18 Dec 2020
- Rangel, C., Daniels, J., Phillips, T. (2020). 'We're all on death row now': Latin America's prisons reel from Covid-19. <https://www.theguardian.com/world/2020/may/16/latin-america-prisons-covid-19-riots>. Accessed 14 Dec 2020.
- Reeves S, Kuper A, Hodges BD. (2008). Qualitative research methodologies: ethnography. *BMJ*, *337*: doi: 10.1136/bmj.a102014.

- Rehm, J., Kilian, C., Ferreira-Borges, C., Jernigan, D., Monteiro, M., Parry, C. D. H., . . .  
 Manthey, J. (2020). Alcohol use in times of the COVID 19: Implications for monitoring  
 and policy. *Drug Alcohol Rev*, 39(4), 301-304. doi:10.1111/dar.13074
- Ryan, A., Sereda, A., & Fairbairn, N. (2020). Measures to support a safer drug supply. *CMAJ*,  
 192(49), E1731-E1731.
- Scottish Drug Deaths Taskforce. (2020). *Innovation and National Development Fund*. (Accessed  
 20 Dec 2020). [https://drugdeathstaskforce.scot/about-the-taskforce/funding/innovation-  
 and-national-development-fund/](https://drugdeathstaskforce.scot/about-the-taskforce/funding/innovation-and-national-development-fund/)
- Schwartzapfel, B., Park, K. Demillo, A. (2020). 1 in 5 Prisoners in the U.S. Has Had COVID-19.  
[https://www.themarshallproject.org/2020/12/18/1-in-5-prisoners-in-the-u-s-has-had-  
 covid-19](https://www.themarshallproject.org/2020/12/18/1-in-5-prisoners-in-the-u-s-has-had-covid-19). Accessed 18 Dec 2020.
- Simbulan, N., Estacio, L., Dioquino-Maligaso, C., Herbosa, T., & Withers, M. (2019). The  
 Manila Declaration on the Drug Problem in the Philippines. *Annals of global health*,  
 85(1), 26. <https://doi.org/10.5334/aogh.28>
- Slotnick, D. (2020). Homeless Men Must Leave Upper West Side Hotel, Judge Rules.  
<https://www.nytimes.com/2020/11/25/nyregion/nyc-homeless-hotel-lucerne.html>  
 (Accessed 19 Dec 2020)
- Stauffer, B. (2016) Every 25 Seconds - The Human Toll of Criminalizing Drug Use in the United  
 States. [https://www.hrw.org/report/2016/10/12/every-25-seconds/human-toll-  
 criminalizing-drug-use-united-states](https://www.hrw.org/report/2016/10/12/every-25-seconds/human-toll-criminalizing-drug-use-united-states) (Accessed 11 Jan 2021)
- Stillman, S. (2020). Will the Coronavirus Make Us Rethink Mass Incarceration?  
[https://www.newyorker.com/magazine/2020/05/25/will-the-coronavirus-make-us-  
 rethink-mass-incarceration](https://www.newyorker.com/magazine/2020/05/25/will-the-coronavirus-make-us-rethink-mass-incarceration)
- Thangaratnam, S. and Redman, C.W. (2005), The Delphi technique. *The Obstetrician &  
 Gynaecologist*, 7: 120-125. <https://doi.org/10.1576/toag.7.2.120.27071>
- The Lancet (2011). Russia's punitive drug laws. 377:9783, P2056, June18, 2011.  
 DOI:[https://doi.org/10.1016/S0140-6736\(11\)60903-3](https://doi.org/10.1016/S0140-6736(11)60903-3)
- Tran H, Tran T, Tran M, Nguyen N, Nguyen Q, Nguyen M, (2015). Impact of a methadone  
 maintenance therapy pilot in Vietnam and its role in a scaled-up response. *Harm  
 Reduction Journal*. 2015; 12:39.
- Tsai, J., & Wilson, M. (2020). COVID-19: a potential public health problem for homeless  
 populations. *The Lancet. Public health*, 5(4), e186–e187. [https://doi.org/10.1016/S2468-  
 2667\(20\)30053-0](https://doi.org/10.1016/S2468-2667(20)30053-0)

- Tyndall, M. (2020). Safer opioid distribution in response to the COVID-19 pandemic. *International Journal of Drug Policy*, 83, 102880.
- UK Ministry of Justice (2020). Pause to prisoner early release scheme. 19 August. <https://www.gov.uk/government/news/pause-to-prisoner-early-release-scheme>. Accessed 18 Dec 2020
- United Nations Office on Drug and Crime. (UNODC). (2020a). *Suggestions about treatment, care and rehabilitation of people with drug use disorder in the context of the COVID-19 pandemic*. <https://www.unodc.org/documents/drug-prevention-and-treatment/UN-Covid19-infographic-200328-5070.pdf>
- (2020b). World Drug Report 2020 (Sales No. E.20.XI.6 ed.). [https://wdr.unodc.org/wdr2020/field/WDR20\\_Booklet\\_2.pdf](https://wdr.unodc.org/wdr2020/field/WDR20_Booklet_2.pdf). (Accessed 14 Dec 2020).
- (UNODC). (2020c). *COVID-19 and the drug supply chain: from production and trafficking to use*. Research Brief. <https://www.unodc.org/documents/data-and-analysis/covid/Covid-19-and-drug-supply-chain-Mai2020.pdf>
- Vivanco, J., & Muñoz, C. (2020). How to Prevent Covid-19 Outbreaks in Latin America's Prisons. <https://www.hrw.org/news/2020/05/21/how-prevent-covid-19-outbreaks-latin-americas-prisons#>. Accessed 14 Dec 2020.
- WION (2020). April 28. Inmates in El Salvador suffer as Latin American prisons breed COVID-19. (2020). <https://www.wionews.com/world/inmates-in-el-salvador-suffer-as-latin-american-prisons-breed-covid-19-295382>. Accessed 14 Dec 2020.
- World Health Organization Regional Office for Africa. (2020). COVID-19 halting crucial mental health services in Africa, WHO survey. <https://www.afro.who.int/news/covid-19-halting-crucial-mental-health-services-africa-who-survey> (Accessed 19 Dec 2020)
- Winterburn, T. (2020). 10,000 Prisoners released early onto the streets of France as Jails struggle to contain the coronavirus outbreak. <https://www.euroweeklynews.com/2020/04/15/10000-prisoners-released-early-onto-the-streets-of-france-as-jails-struggle-to-contain-the-coronavirus-outbreak/>. Accessed 18 Dec 2020
- World Drug Report 2020 (United Nations publication, Sales No. E.20.XI.6). [https://wdr.unodc.org/wdr2020/field/WDR20\\_Booklet\\_3.pdf](https://wdr.unodc.org/wdr2020/field/WDR20_Booklet_3.pdf) Accessed 19 Dec 2020.